PRECAUTIONS

Before using this unit please read these operating instructions carefully. Take special care to follow the warnings indicated on the unit itself as well as the safety suggestions listed below.
Afterwards keep them handy for future reference.

Safety

1. **Power Source**—The unit should be connected to power supply only of the type described in the operating instructions or as marked on the unit.
2. **Polarization**—If the unit is equipped with a polarized AC power plug (a plug having one blade wider than the other), that plug will fit into the AC outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
3. **Power Cord Protection**—AC power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
4. **Nonuse Periods**—When the unit is not used, turn the power off. When left unused for a long period of time, the unit should be unplugged from the household AC outlet.

Installation

■ Environment

1. **Water and Moisture**—Do not use this unit near water—for example, near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.
2. **Condensation**—Moisture may form on the lens in the following conditions...
   - immediately after a heater has been turned on.
   - in a steamy or very humid room.
   - when the unit is suddenly moved from a cold environment to a warm one.
   If moisture forms inside this unit, it may not operate properly. To correct this problem, turn on the power and wait about one hour for the moisture to evaporate.
3. **Heat**—The unit should be situated away from heat sources such as radiators and the like. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).

■ Placement

1. **Ventilation**—The unit should be situated so that its location or position does not interfere with its proper ventilation. Allow 10 cm (4") clearance from the rear of the unit.
2. **Foreign Material**—Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to excessive smoke, dust, mechanical vibration, or shock.
3. **Magnetism**—The unit should be situated away from equipment or devices that generate strong magnetic fields.
4. **Stacking**—Do not place any objects on top of unit.
5. **Surface**—Place the unit on a flat, level surface.
6. **Carts and Stands**—The unit should be used only with a cart or stand that is recommended by the manufacturer. The unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.
7. **Wall or Ceiling Mounting**—The unit should not be mounted to a wall or ceiling, unless specified in this operating instructions.

Maintenance

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution.
Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Service

1. **Damage Requiring Service**—The unit should be serviced by qualified service personnel when:
   (a) The AC power supply cord or the plug has been damaged; or
   (b) Objects have fallen or liquid has been spilled into the unit; or
   (c) The unit has been exposed to rain; or
   (d) The unit does not appear to operate normally or exhibits a marked change in performance; or
   (e) The unit has been dropped, or the enclosure damaged.
2. **Servicing**—The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to an authorized service personnel.

For the address of an authorized servicenter:
In the U.S.A., call 1-800-211-7262, e-mail consumerproducts@panasonic.com, or visit www.panasonic.com
In Canada, call 905-624-5505 or visit www.panasonic.ca

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Panasonic®

CD Clock Radio
Operating Instructions
Model No. RC-CD500
RC-CD450
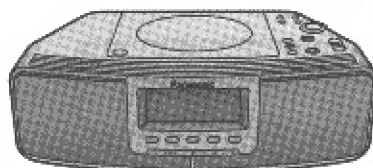
Dear Customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

Before connecting, operating or adjusting this product, please read these instructions completely. Please keep this manual for future reference.

Model RC-CD450 is only for the U.S.A.

COMPACT DISC DIGITAL AUDIO

P PC

En
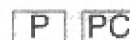
- The following mark and symbols are located on the bottom of the unit.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
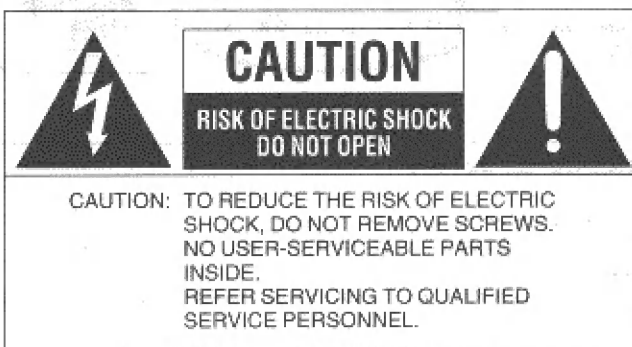
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Power sources

AC power supply cord

Connect the AC power supply cord to a household AC outlet.

Back of the unit

Plug in firmly.
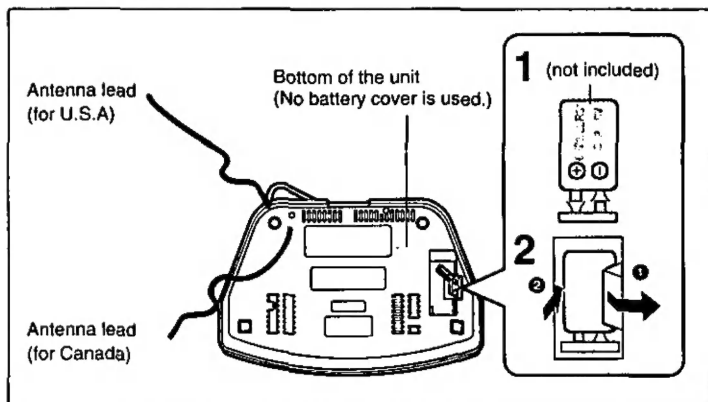
AC power supply cord

Display
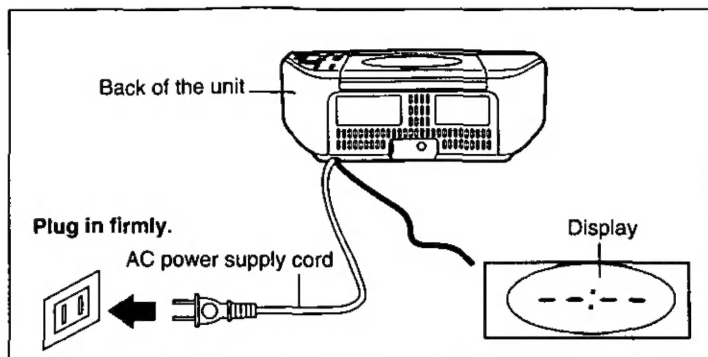
Note
These speakers do not have magnetic shielding. Do not place them near televisions, personal computers or other devices easily influenced by magnetism.

Memory back-up battery (not included)

This battery saves the clock, timer and radio preset settings if there is a power interruption.

Antenna lead (for U.S.A)

Bottom of the unit (No battery cover is used.)

1 (not included)

2

Antenna lead (for Canada)

Replacing the battery

- The battery lasts about a year.
  The battery lasts about a month if the unit is disconnected from the household AC outlet.
- Protect the memory by connecting the AC power cord before changing the battery.
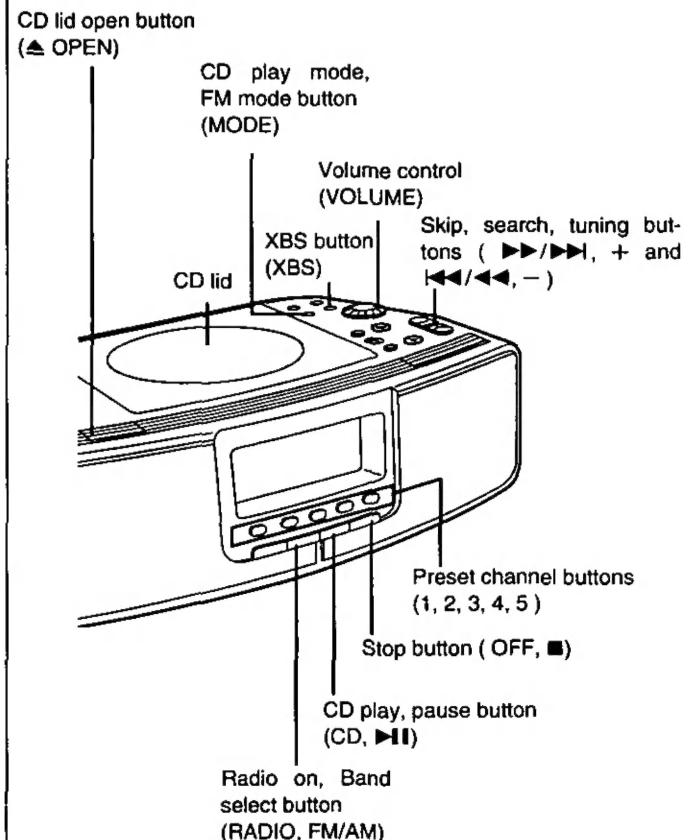
Note
- Align the poles ($\ominus$ and $\oplus$) properly when inserting the battery.
- Do not heat or disassemble batteries. Do not allow them to contact flame or water.
- Remove the battery if the unit is not to be used for a long time.
- Do not use the battery if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.
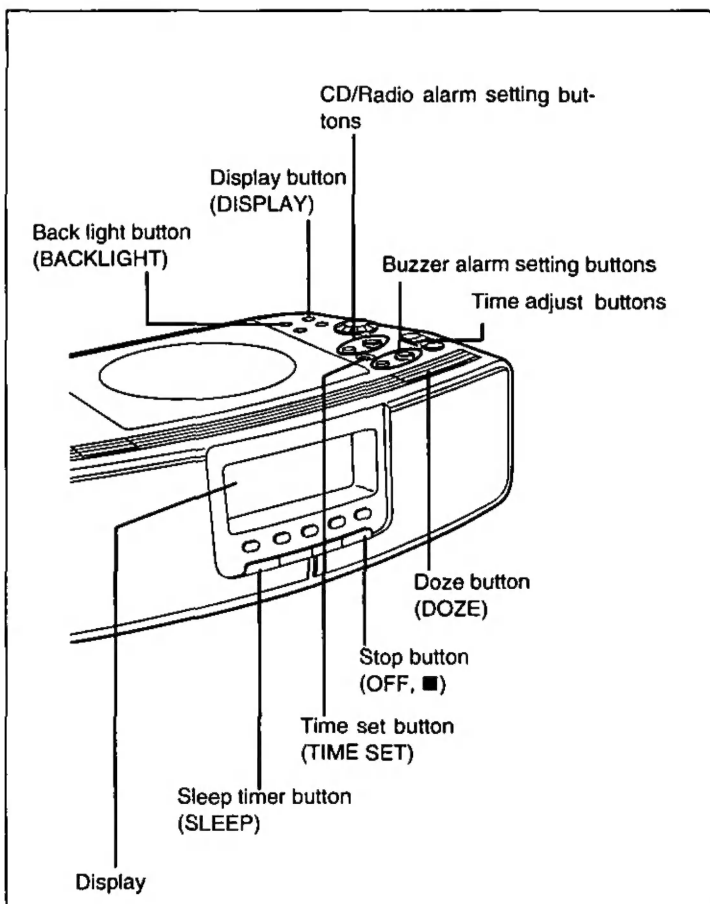If electrolyte leaks from the batteries, consult your dealer.
Wash thoroughly with water if electrolyte comes in contact with any part of your body.

Controls

CD, Radio

CD lid open button
(▲ OPEN)

CD play mode, FM mode button (MODE)

Volume control (VOLUME)

Skip, search, tuning buttons (▶▶/▶▶|, + and |◀◀/◀◀, −)

XBS button (XBS)

CD lid

Preset channel buttons (1, 2, 3, 4, 5)

Stop button (OFF, ■)

CD play, pause button (CD, ▶||)

Radio on, Band select button (RADIO, FM/AM)

Alarm, Sleep timer and Basic operations

CD/Radio alarm setting buttons

Display button (DISPLAY)

Buzzer alarm setting buttons

Back light button (BACKLIGHT)

Time adjust buttons

Doze button (DOZE)

Stop button (OFF, ■)

Time set button (TIME SET)

Sleep timer button (SLEEP)

Display

Setting the time

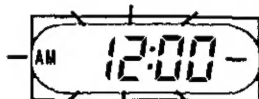This is a 12-hour clock.
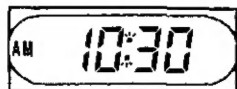This example shows how to set the clock for 10:30 A.M.
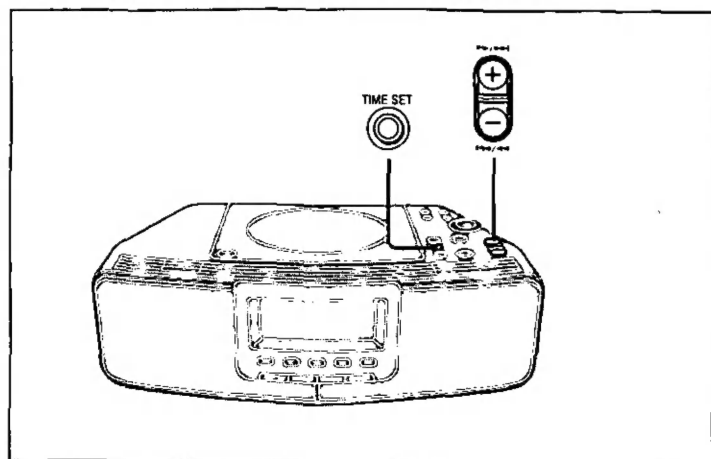
While pressing [TIME SET]

The time display flashes while you are pressing [TIME SET].

Press [▶▶/▶▶|, +] or [|◀◀/◀◀, −] to adjust the time.

[▶▶/▶▶|, +]: Increases the time by one-minute units.

[|◀◀/◀◀, −]: Decreases the time by one-minute units.
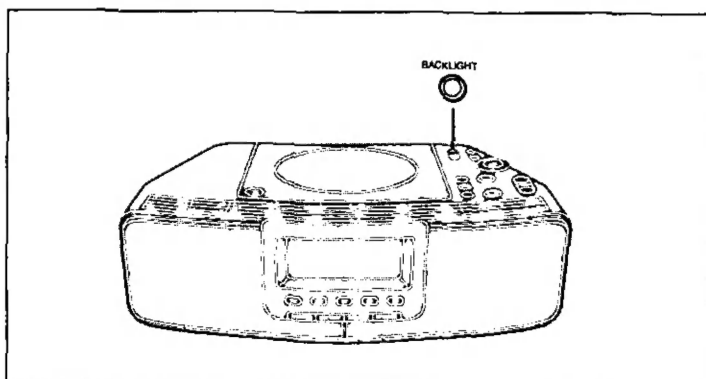
The clock starts when you release [TIME SET].

Note
The time changes faster if you hold [▶▶/▶▶|, +] or [|◀◀/◀◀, −] down.

For your reference:
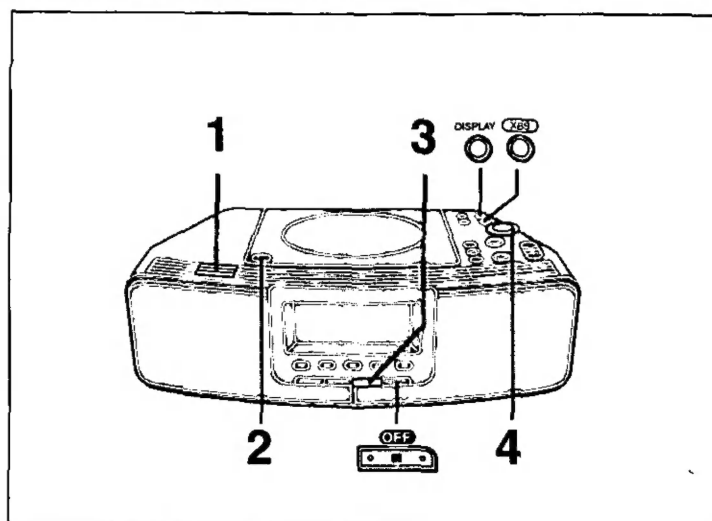When you play a CD or the radio, the display changes but the clock is displayed again after about 10 seconds.

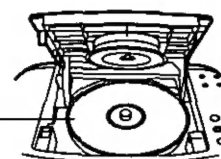# Turning the backlight on and off

Press [BACKLIGHT].
The backlights turns on or off each time you press the button.

Listening to CDs

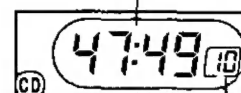**1** Press [▲ OPEN] to open the CD lid and insert the CD.

Label must face upward.

2 Press [PUSH CLOSE] to close the CD lid.
"cɒ ----- --" is displayed if there is no disc in the unit.
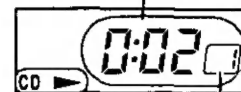
Total playing time

Number of tracks

3 Press [CD, ▶II] to start play.
Play starts from the first track and continues to the last track.

Elapsed play time

Track number in play

4 Adjust the volume.

■ **To stop play**
Press [OFF, ■].
The CD section is turned off if you press [OFF, ■] again.
■ **To pause play**
Press [▶II] during playback.
To resume, press [▶II].
■ **To search forward/backward**
Hold down [▶▶/▶▶|, +] (forward) or [|◀◀/◀◀, −] (backward) during playback.
■ **To skip forward/backward**
Press [▶▶/▶▶|, +] (forward) or [|◀◀/◀◀, −] (backward).
■ **To boost the low frequency range**
Press [XBS]." (XBS)" lights up.
Press again to cancel.
■ **To check the CD display during play**
Press [DISPLAY].
Press again to show the clock. The clock is displayed after about 10 seconds even if you do not press the button.

Note
●The clock is displayed after about 10 seconds after you perform operations.
●The CD section is turned off if it is stopped for about 4 minutes.
●Do not press [▲ OPEN] during play, pause or immediately after you inserted a CD and closed the CD lid. CD may be scratched.
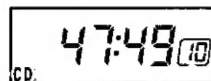
Other methods of play
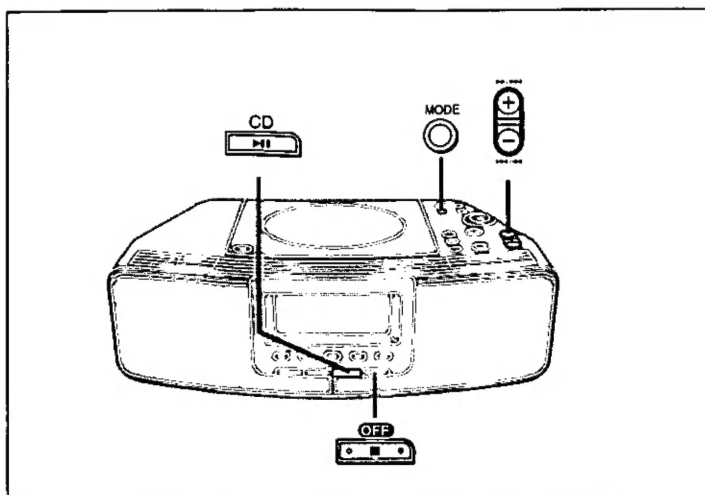
■ Preparation for skip play and random play
1. Press [CD, ►II].

2. Press [OFF, ■] to stop play.
"CD" must be displayed on the display for these methods to work.

`47:49₁₀`
`CD`

● The CD section is turned off if it is stopped for about 4 minutes.

Skip play

1 While stopped
Press [►►/►►I, +] or [I◄◄/◄◄, –] to select a track.

2 Press [CD, ►II] to start play.
Play starts and continues to the last track.
You can also select a track during the play.

Random play

Plays the tracks once each in random order.

1 While stopped
Press [MODE] to select "RANDOM".
Each time [MODE] is pressed
1 ↻ → ↻ → RANDOM
↑—— Off (no indication)◄┘

`47:49₁₀`
`CD    RANDOM`

2 Press [CD, ►II] to start play.

Note
● You cannot skip to tracks already played.
● Search can be done within a track only.

■ To cancel
Press [MODE] to clear "RANDOM".

Note
● If canceled during play, play continues to the end of the disc.
● The mode is also canceled if the CD lid is opened.
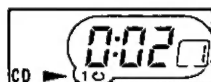
Repeat play

Plays a track or all tracks repeatedly.

1 Press [CD, ►II] to start play.

2 Press [MODE] to select the repeat mode.
Each time [MODE] is pressed
1 ↻ → ↻ → RANDOM
↑—— Off (no indication)◄┘
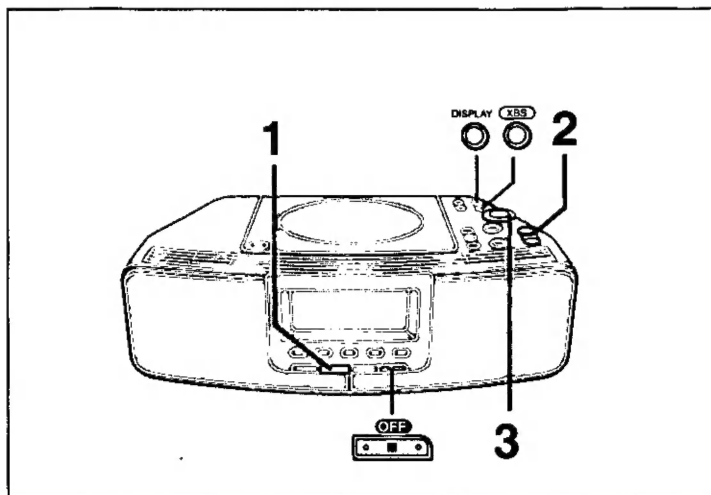
1 ↻ : One track repeated
↻ : All tracks repeated

`0:02`
`CD ► 1 ↻`

■ To cancel
Press [MODE] until "1 ↻ " and " ↻ " are cleared.

Note
The mode is also canceled if the CD lid is opened.

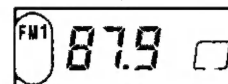# Listening to the radio

1 Press [RADIO, FM/AM] to select the band.
Each time [RADIO, FM/AM] is pressed
FM 1 → FM 2 → AM 1 → AM 2
↑_____|

`FM1  87.9  ▭`

2 Press [►►/►►I, +] or [I◄◄/◄◄, –] to tune to the desired station.
"TUNED" lights up for 3 seconds when the station is tuned in.

`FM1  TUNED  88.1  ▭`

Automatic tuning
Keep [►►/►►I, +] or [I◄◄/◄◄, –] depressed and release when the frequency display starts to change. A station with good reception is automatically selected and the process stops.
To stop automatic tuning, press [►►/►►I, +] or [I◄◄/◄◄, –] again.

Note
Automatic tuning may stop on a frequency where there is no station if there is interference. Press [►►/►►I, +] and [I◄◄/◄◄, –] to fine tune if this occurs.

The clock is displayed after about 10 seconds.

`AM  10:30 ⊕`
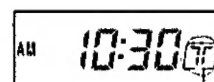
Reception Indicator

3 Adjust the volume.

■ To stop play
Press [OFF, ■].

■ To boost the low frequency range
Press [XBS]." (XBS) " lights up.
Press again to cancel.

■ To check the radio display during play
Press [DISPLAY].
Press again to show the clock. The clock is displayed after about 10 seconds even if you do not press the button.

■ To improve reception
See page 5.

To receive FM broadcasts allocated in 0.1 MHz

First press [RADIO, FM/AM] to select FM 1. Now, press and hold [RADIO, FM/AM]. The display changes in a few seconds to show the current lowest FM frequency. Continue to hold down the button.
The minimum frequency changes and the step is changed at the same time. Changing the step erases all preset stations.
Repeat the above to change the step back.

Preset tuning

Preset 5 stations in each band (FM 1 and 2, AM 1 and 2) for a total of 20 stations. Preset the stations one at a time.

1, ❶   3, ❷   2
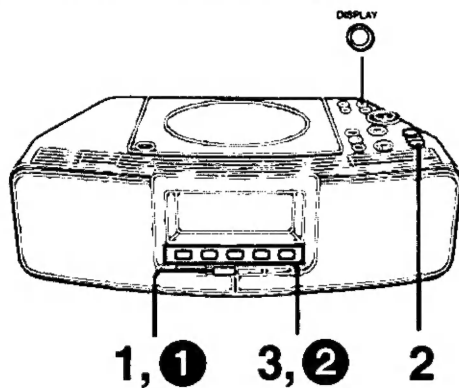
How to preset

1 Press [RADIO, FM/AM] to select the band.
Each time [RADIO, FM/AM] is pressed
FM 1 → FM 2 → AM 1 → AM 2 .

....

2 Press [▶▶/▶▶|, +] or [|◀◀/◀◀, −] to tune to the desired station.

....

3 Press and hold a memory button ([1], [2], [3], [4], or [5]) until the channel number appears.

Preset channel

....

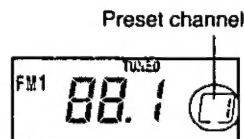**4** Repeat steps 2, 3 to preset other stations.
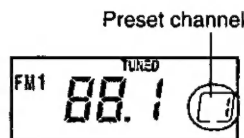
Note

The station occupying a channel is erased if another station is preset in that channel.

To listen to preset channels

❶ Press [RADIO, FM/AM] to select the band.
Each time [RADIO, FM/AM] is pressed
FM 1 → FM 2 → AM 1 → AM 2

....

❷ Press a memory button ([1], [2], [3], [4], or [5]) to select the desired channel.
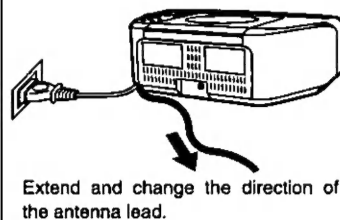
Preset channel

■ **To check the radio display during play**
Press [DISPLAY].
Press again to show the clock. The clock is displayed after about 10 seconds even if you do not press the button.
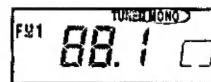
To improve reception

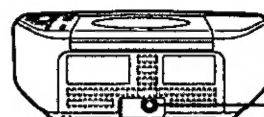| FM	AM
Extend and change the direction of the antenna lead.	

■ **If noise is excessive in the FM stereo mode**
Press [MODE].
"MONO" lights up.

Sound will be produced in monaural, but this also reduces noise.
Press the button again to cancel. ("MONO" goes out.)

Using the headphones (not included)

PHONES

Plug type: 3.5 mm (¹/₈″) stereo

Turn down the volume and connect the headphones to [PHONES].

Note

● If headphones are connected, the CD/Radio alarm (ALARM 1) and buzzer alarm (ALARM 2) will function but only the buzzer will be heard through the speakers.
● Avoid listening for prolonged periods of time to prevent hearing damage.

Using the alarm

You can set the unit to come on at a set time and play a CD, the radio or a buzzer. The unit turns off automatically after one hour.
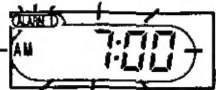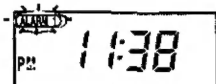■ Preparation: Set the current time.

Setting the CD/Radio alarm (ALARM 1)
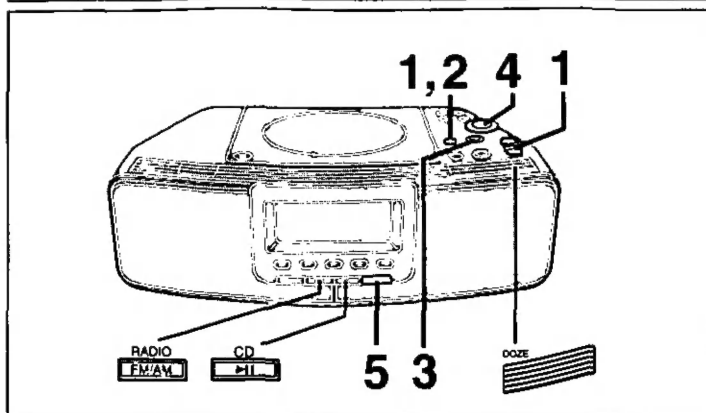
1 **While pressing [DISP/ADJ]** (ALARM 1)

adjust the alarm setting with [▶▶/▶▶|, +] or [|◀◀/◀◀, –].
The time changes faster if you hold [▶▶/▶▶|, +] or [|◀◀/◀◀, –] down.

The alarm time is set when you release [DISP/ADJ] (ALARM 1).

2 ■ CD
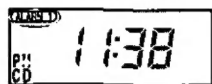While pressing [DISP/ADJ] (ALARM 1)
Press [CD, ▶II] to start play.

■ Radio
While pressing [DISP/ADJ] (ALARM 1)
① Press [RADIO, FM/AM] to select the band.
② Press [▶▶/▶▶|, +] or [|◀◀/◀◀, –] to tune the desired station.

3 Press [1,CD/RADIO] so "ALARM 1" appears on the display.

Example:
When CD alarm has been set

4 Adjust the volume.

5 Press [OFF, ■] to turn off.
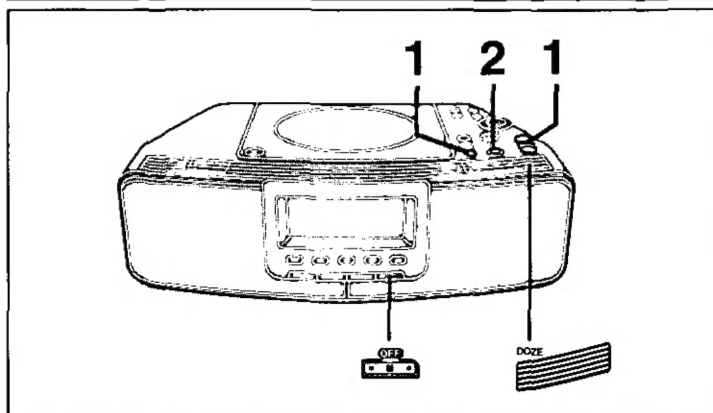Press [OFF, ■] again to turn off the CD section.

For your reference:
The unit can be used after the CD/Radio alarm has been set. Be sure the volume is at an appropriate level before you turn the unit off.

Note
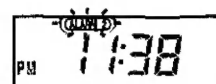If you set the CD alarm but do not insert a CD, the buzzer will sound at the set time instead.

Setting the buzzer alarm (ALARM 2)

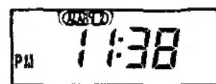**1** **While pressing [DISP/ADJ]** (ALARM 2)

adjust the alarm setting with [▶▶/▶▶|, +] or [|◀◀/◀◀, –].
The time changes faster if you hold [▶▶/▶▶|, +] or [|◀◀/◀◀, –] down.

The alarm time is set when you release [DISP/ADJ] (ALARM 2).

2 Press [2, BUZZER] so "ALARM 2" appears on the display.

Note
You cannot adjust the volume of the buzzer alarm.

■ **To shut off the alarm**
Press [OFF, ■].
The alarm is turned off but the setting remains intact so the alarm will operate as set the next day as well.

■ **To clear the alarm setting**
Press [1,CD/RADIO] or [2, BUZZER] again.
"ALARM 1" or "ALARM 2" is cleared.

■ **To snooze a few more minutes even after the alarm has sounded**
Press [DOZE].
The alarm sounds again 6 minutes later.
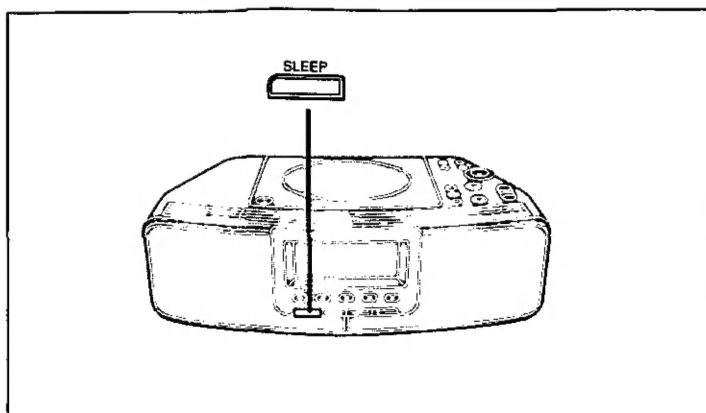Press [OFF, ■] to shut off the alarm.

■ **To check the alarm time**
Press [DISP/ADJ] (ALARM 1) or [DISP/ADJ] (ALARM 2).
The alarm time is displayed while the button is pressed.

Note
This unit enables two alarms (ALARM 1, ALARM 2) to be set separately.

Using the sleep timer

Press [SLEEP].
Each time [SLEEP] is pressed
30 → 60 → 90 → 120
(min.)

↳ OFF ↲

■ **To release the timer**
Press [SLEEP] to select "OFF".
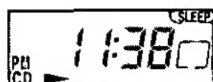
■ **To check the remaining time**
Press [SLEEP] once.
The time display is restored after the remaining time is displayed.

■ **To change the remaining time**
Press [SLEEP] to display the remaining time then press again to change the time.

For your reference:
You can combine the alarm and sleep timer. Be sure the volume is at an appropriate level before you turn the unit off.
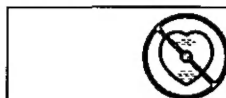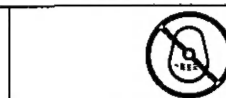
Concerning Compact Discs

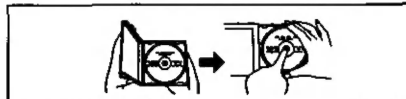 Only compact discs bearing this mark can be used with this unit.

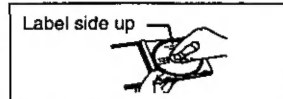However, continued use of irregular shaped CDs can damage the unit.

How to remove a disc from its case   **How to store the disc in its case**
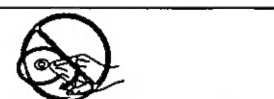
          Label side up

How to hold a disc

If the surface is dirty
Wipe it with a damp cloth and then wipe dry.
Wipe from the center toward the outer circumference.

Play surface (shiny surface)

Handling precautions
● If you are taking the CD from a cold to a warm environment, moisture may form on the CD. Wipe this off with a soft, dry, lint-free cloth before using the CD.
● Do not write on the label side with a ball-point pen or other writing instrument.
● Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
● Do not attach labels or stickers to CDs. (Do not use CDs with exposed adhesive from tape or left over peeled off stickers.)

● Do not use scratch-proof protectors or covers other than those specified for use with this unit.
Storage precautions
Be sure to store CDs in their cases to protect them from dust, scratches, and warping.
Do not place or store CDs in the following places
● Locations exposed to direct sunlight
● Humid or dusty locations
● Locations directly exposed to a heat vent or heating appliance
● In the glove compartment or on the rear deck of an automobile

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.
If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.
For detailed instructions, contact an authorized servicenter in the U.S.A. and Panasonic Canada Inc. Customer Care Centre in Canada.
In the U.S.A., call 1-800-211-7262, e-mail consumerproducts@panasonic.com, or visit www.panasonic.com
In Canada, call 905-624-5505 or visit www.panasonic.ca

Common problems

Problem	Check this
"—:—" is displayed. "cd ——--" is displayed.	● The clock hasn't been set. Set the current time. ● A CD hasn't been inserted.
The alarm doesn't sound at the set time.	Ensure the alarm's indicator is on ("ALARM 1" or "ALARM 2").
The memory has been cleared.	● Reset the items into the memory. ● Insert a memory back-up battery to preserve the contents of the memory.

CD

Problem	Check this
"E" is displayed.	Indicates an incorrect operation. Read the instructions.
Play doesn't start or display is incorrect.	● Clean the CD. ● Wait for an hour for condensation to dry, then try again. ● Make sure the label is facing up. ● Replace the CD if it is scratched, warped, or irregularly shaped.

Radio

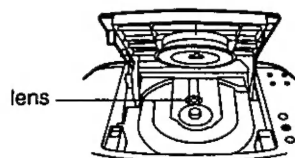| Problem	Check this
The picture is distorted. A lot of noise.	Are you using the unit too near a TV or Tuner? Move the unit away from a TV or tuner or turn off.

Maintaining the Lens

Open the lid and clean the lens.
Use a cotton swab to gently wipe off any finger-prints.
Recommended product:
Lens cleaner kit
(SZZP1038C)

lens ────

Product service

Do not attempt to remove the cover(s) or repair the unit yourself. Refer servicing to qualified personnel only.

Product information

For product service, product information or assistance with product operation, refer to the servicenter directory.

User memo:

| DATE OF PURCHASE _____ |
| DEALER NAME _____ |
| DEALER ADDRESS _____ |
| TELEPHONE NUMBER _____ |

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION:
TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

WARNING:
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPLIANCE TO RAIN, SPLASHING, DRIPPING OR MOISTURE.

Specifications

Frequency range	
FM:	87.9–107.9 MHz (200 kHz steps)
	87.5–108.0 MHz (100 kHz steps)
AM:	520–1710 kHz (10 kHz steps)
Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source	Semiconductor laser (wavelength 780 nm)
No. of channels	2 channel, stereo
Wow and flutter	Less than possible measurement data
DA converter	MASH (1 bit DAC)
Speakers	8 cm (3") 6 Ω×2
Jacks	
Output	PHONES: 3.5 mm (1/8") stereo (32 Ω)
Power requirement	AC 120 V, 60 Hz
	Power consumption: 14 W
Memory back-up	9 V (One 6F22/6LR61, 006P battery)
Dimensions (W×H×D)	300×103×190 mm (11 13/16"×4 1/16"×7 1/2")
Mass	1.85 kg (4 lb 1 oz) without battery

Note:
Specifications are subject to change without notice.
Mass and dimensions are approximate.

Power consumption in standby mode: 1.4 W

Listening caution

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

We recommend you to avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:
● Start your volume control at a low setting.
● Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
● Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.